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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/675,465	09/30/2003	Sergei Kolomeitsev	VAL 169P2	5545
34232	7590	04/18/2006	EXAMINER	
MATTHEW R. JENKINS, ESQ. 2310 FAR HILLS BUILDING DAYTON, OH 45419			NGUYEN, HANH N	
			ART UNIT	PAPER NUMBER
			2834	

DATE MAILED: 04/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/675,465

Applicant(s)

KOLOMEITSEV ET AL.

Examiner

Nguyen N. Hanh

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– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 January 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-9, 11-17, 27-29 and 35-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-9, 11-17, 27-29 and 35-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Remarks

1. In view of amendments and Applicant's arguments, the Examiner withdraws the objections to the drawings, to the specification and to claims 1, 5, 13-17, 22. The cancellation of claims 1, 10, 18-26, 30-34 and the addition of claims 35-39 have been acknowledged.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "extension A and extension B'" must be shown or the features canceled from the claims 38 and 39. No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New

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Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

3. Claim 11 is objected to because there is no antecedent basis for "mid-phase reluctance" in the specification.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

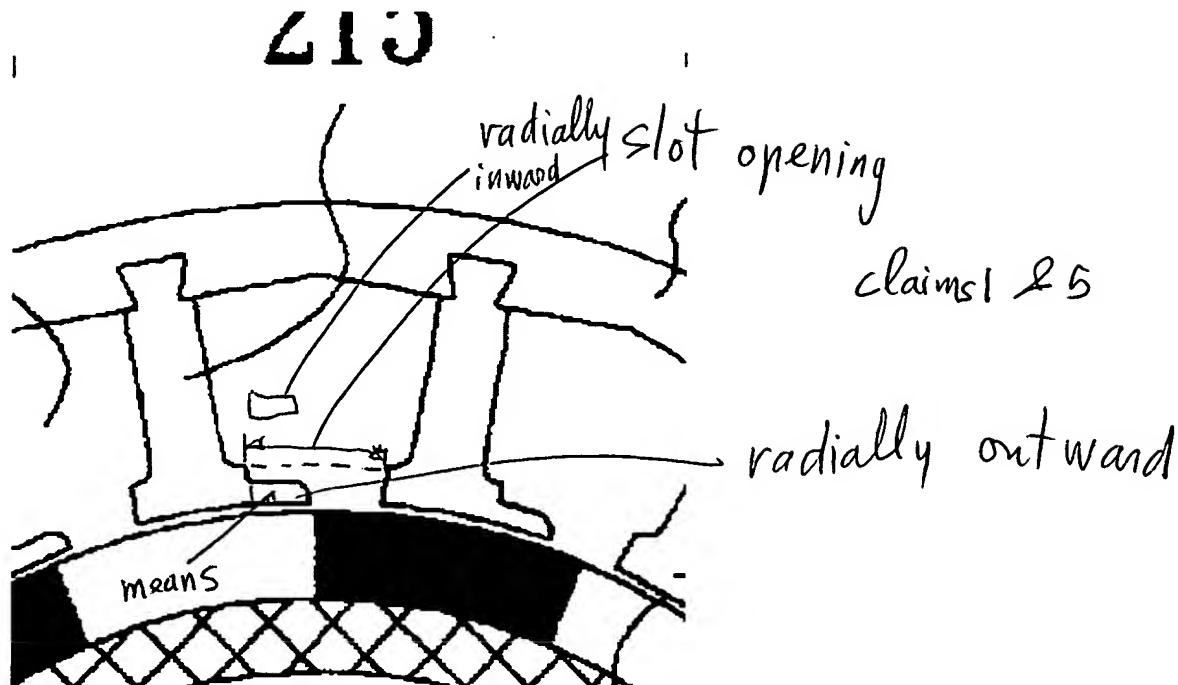
A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 2-9 and 11-17 and are rejected under 35 U.S.C. 102(e) as being anticipated by Hsu.

Regarding claim 2, Hsu discloses an electric motor, comprising: a pair of stator teeth (215 in Fig. 2A), having a stator slot (216) therebetween, the stator slot having slot opening which faces a rotor in the motor, and means for increasing magnetic flux passing through the slot opening (the portion end of the tooth holder which is reserved to collect the magnetic flux passing through the slot opening), wherein the means comprises a body located radially outward of the slot opening (please see markups).



Regarding claim 3, Hsu also discloses an electric motor wherein the means (the portion end of the tooth holder which is reserved) is magnetically and physically continuous with one of the stator teeth.

Regarding claim 4, Hsu also discloses an electric motor wherein the means reduces cogging torque of the motor (Abstract).

Regarding claim 5, Hsu also discloses an electric motor comprising: a pair of stator teeth (215 in Fig. 2A), having a stator slot (216) therebetween, the stator slot having a radial slot opening, and a body (the portion end of the tooth holder which is reserved) located radially outward of the slot opening, which increases magnetic flux passing through the slot opening (the portion end of the tooth holder which is reserved to collect the magnetic flux passing through the slot opening).

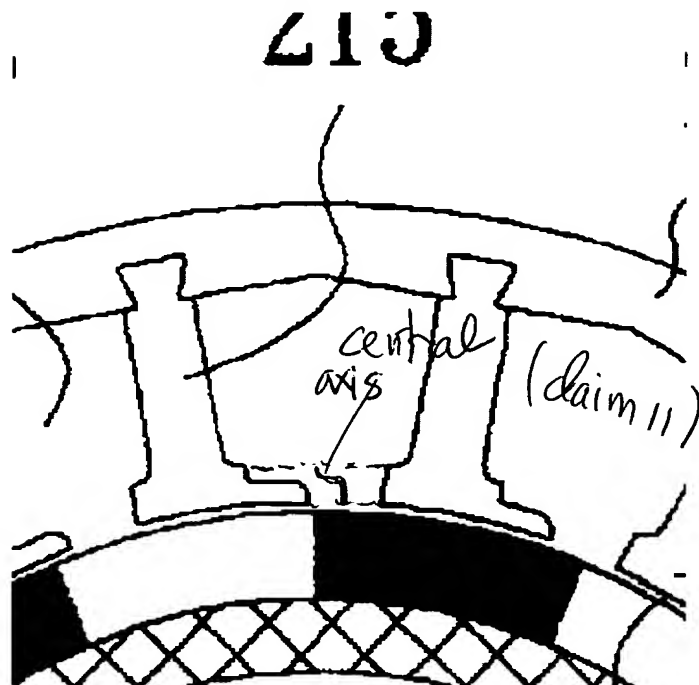
Regarding claim 6, Hsu also discloses an electric motor wherein the body (the portion end of the tooth holder which is reserved) is magnetically continuous with one of the teeth.

Regarding claim 7, Hsu also discloses an electric motor wherein the body is physically continuous with one of the teeth (Fig. 2A).

Regarding claim 8, Hsu also discloses an electric motor wherein the body is both physically and magnetically continuous with one of the teeth (Fig. 2A).

Regarding claim 9, Hsu also discloses an electric motor wherein the body reduces cogging torque of the motor when no current is applied to the motor.

Regarding claim 11, Hsu also discloses in an electric motor having a rotor, the improvements comprising: stator coils (inherent), and stator core means (the portion end of the tooth holder which is reserved) for decreasing mid-phase reluctance of the rotor (compare to the stator core without the portion end which is reserved) wherein the stator core means comprises a slot having a central axis, and said central axis is non-radial (please see markups).



Regarding claim 12, Hsu also discloses the improvement wherein said central axis has a radially inner region which crosses a radial line of the rotor, and a radially outer region which is spaced circumferentially from said radial line (please see markups).

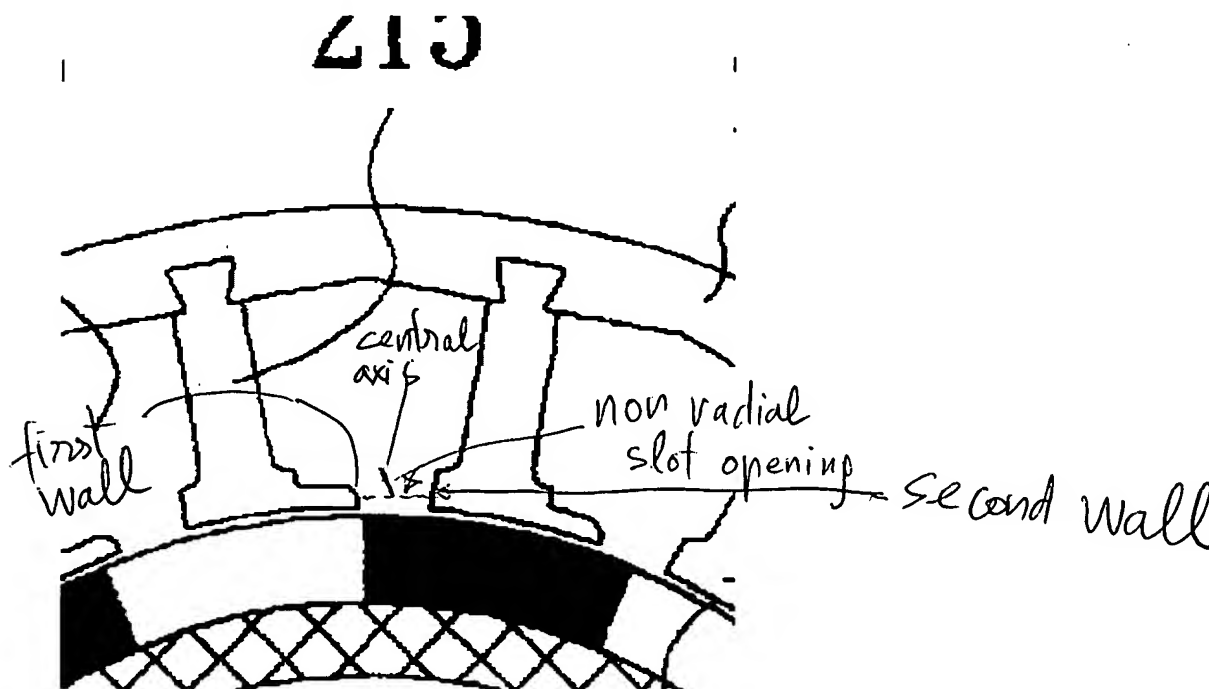
Regarding claim 13, Hsu also discloses in an electric motor having a rotor, the improvements comprising: stator teeth (215 in Fig. 2A), and a non-radial slot opening separating neighboring stator teeth.

Regarding claim 14, Hsu also discloses the improvement wherein the non-radial slot opening decreases mid-phase reluctance of the rotor, compared with a radial slot opening (compare to the stator core without the portion end which is reserved).

Regarding claim 15, Hsu also discloses the improvement wherein the non-radial slot opening decreases cogging torque, compared with a radial slot opening (compare to the stator core without the portion end which is reserved).

Regarding claim 16, Hsu also discloses the improvement comprises a central axis, and said central axis has a radially inner region which crosses a radial line of the rotor, and a radially outer region which is spaced circumferentially from said radial line.

Regarding claim 17, Hsu also discloses an electric motor, comprising: a rotor (31 in Fig. 2A); an array of stator teeth (215) surrounding the rotor, each stator tooth separated from its neighbor by a non-radial slot opening, which slot opening has: one wall formed by a facet of one tooth; and another wall formed by a surface of an adjacent tooth (please see markups).

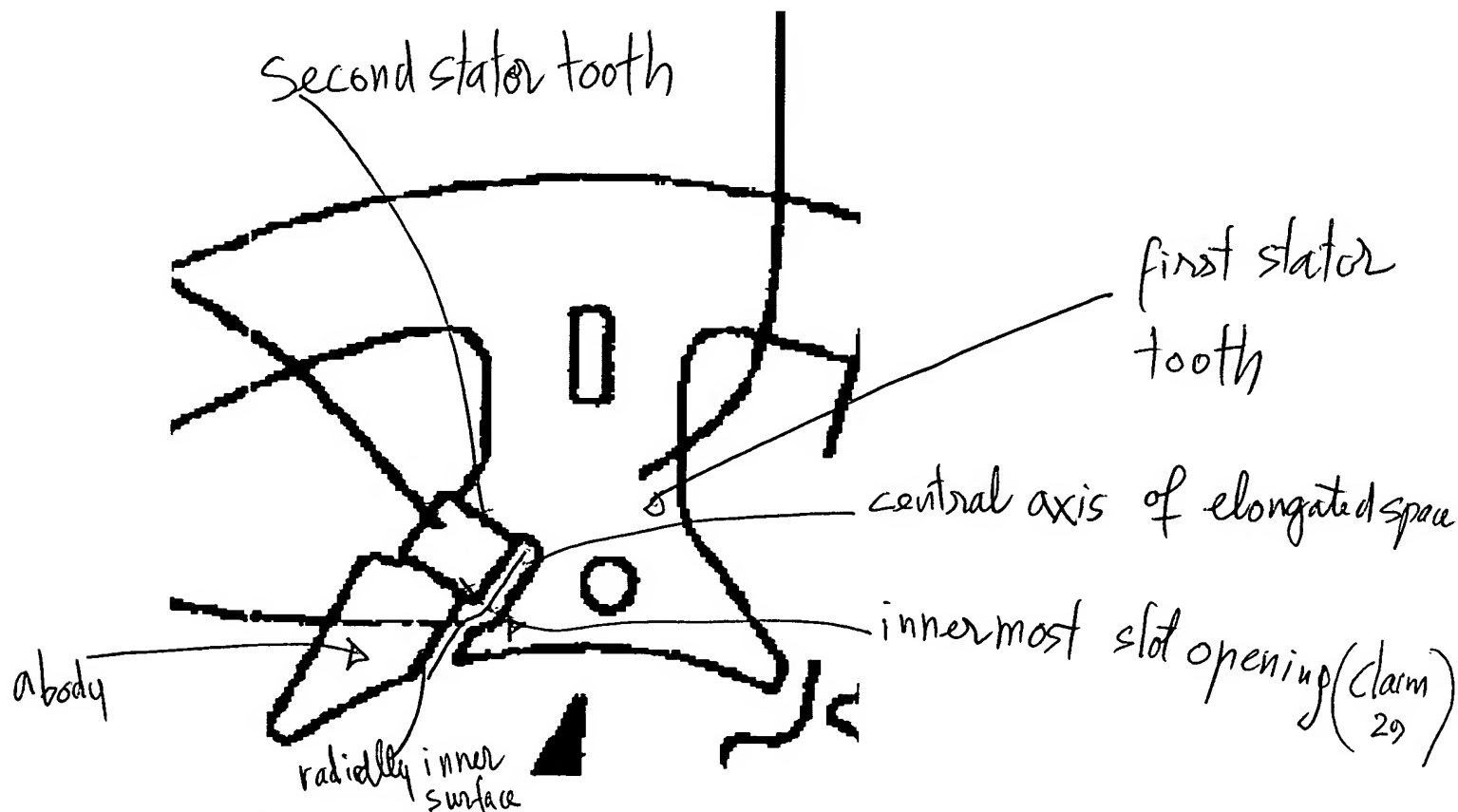


5. Claims 27-29 and 35-39 are rejected under 35 U.S.C. 102(e) as being anticipated by Nutter.

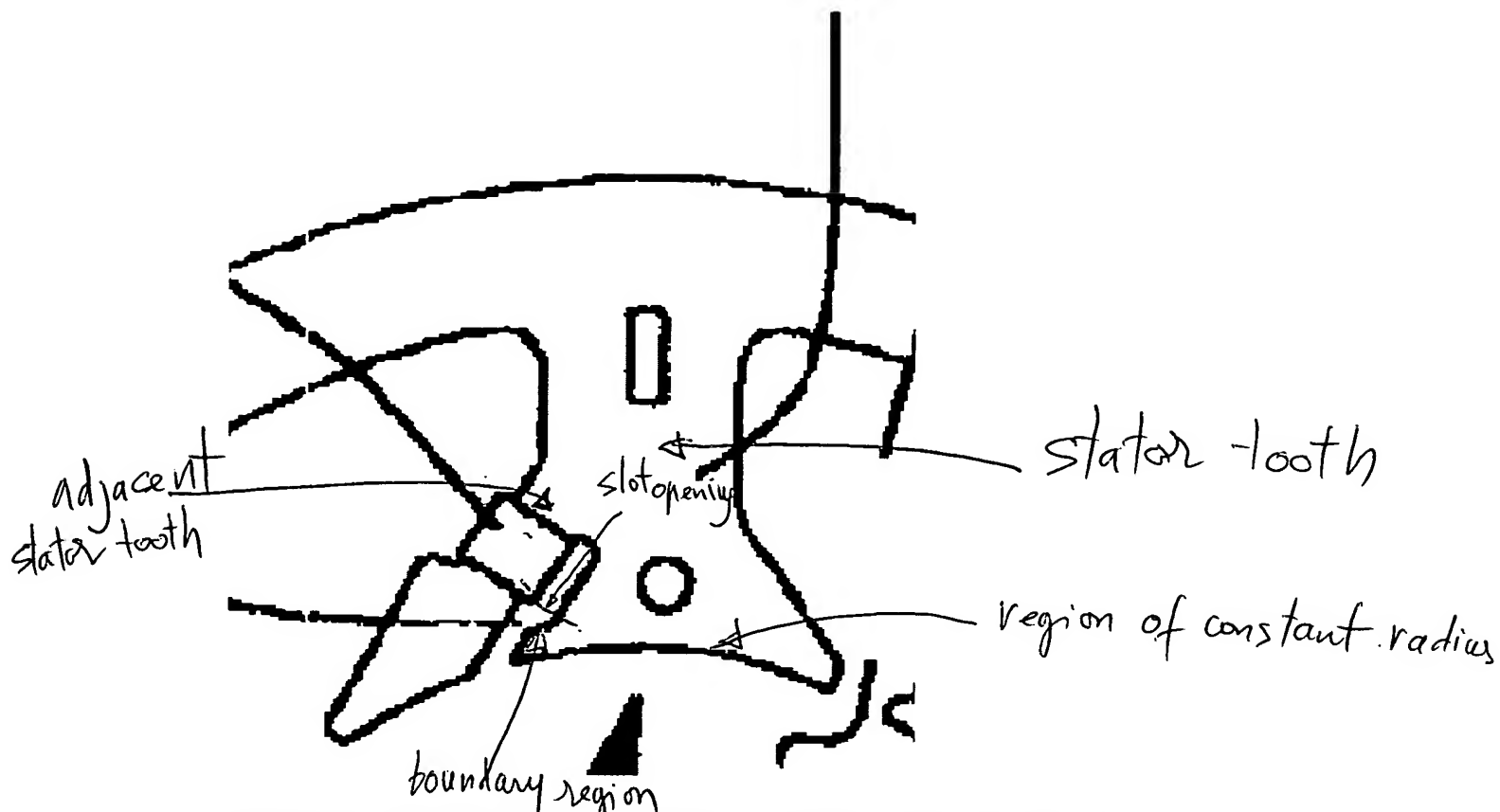
Regarding claim 27, Nutter discloses an electric motor, comprising: a first stator tooth (12 in Fig. 1); a second stator tooth; an elongated space separating the first and

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second stator teeth and having a radially innermost slot opening and a central axis which is non-radial; a body (please see markups) which is magnetically continuous with the first stator tooth, and has a radially inner surface which is radially outside said innermost slot opening.

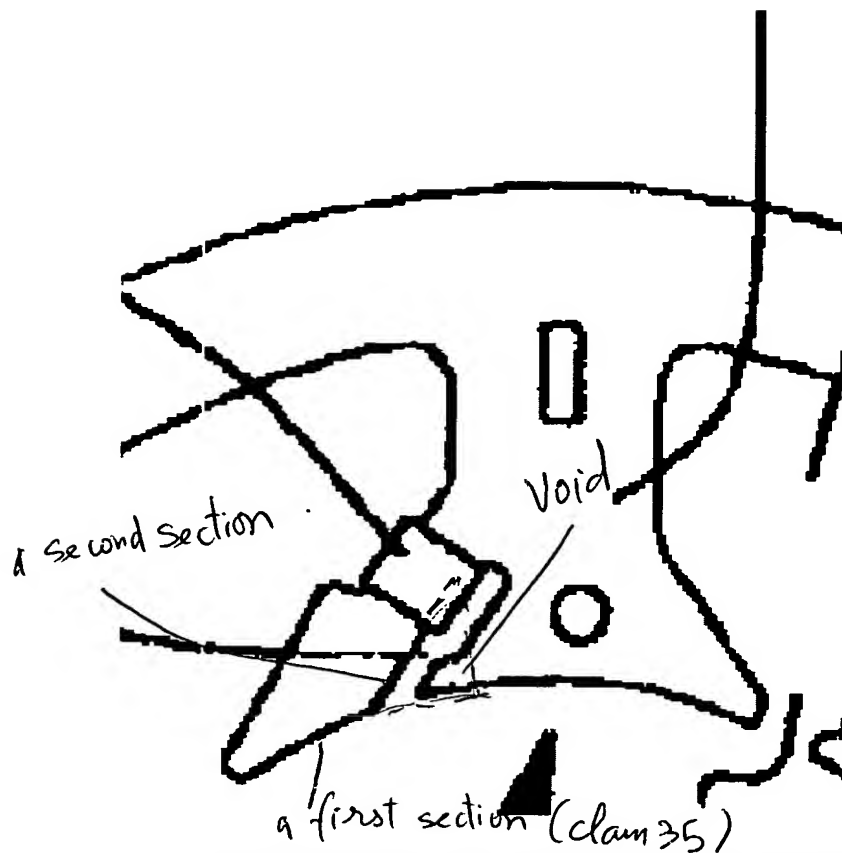


Regarding claim 28, Nutter discloses an electric motor, comprising: a rotor, a stator tooth (12 in Fig. 1) having a radially inner face which includes a first region of constant radius (the region shown by arrow 11), and a circumferential boundary region (the inside region of a body on the left hand side of tooth 12) to a slot opening that is not parallel to a radial line of said rotor, wherein the slot opening separates the stator tooth from an adjacent stator tooth.

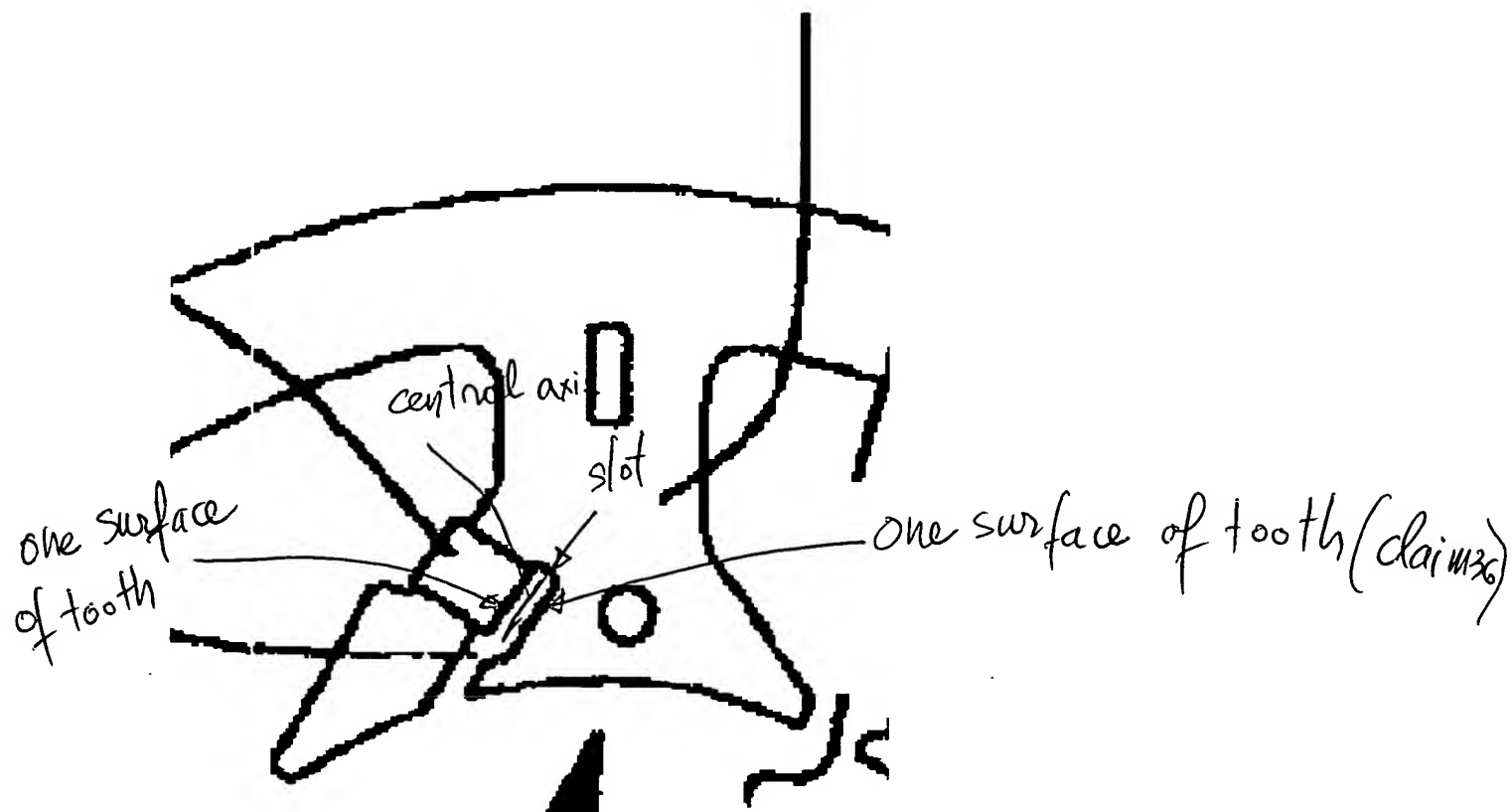


Regarding claim 29, Nutter discloses an electric motor wherein the circumferential boundary region does not lie in the same plane as the first region (Fig. 1).

Regarding claim 35, Nutter discloses an electric motor comprising: a) a rotor having a generally circumferential outer surface; b) a first stator tooth, having a radially inner surface which includes i) a first section which is generally parallel with the outer surface, and ii) a second section which A) is non-parallel with said outer surface and B) cooperates with said outer surface to form a void; c) a second stator tooth having a section which extends into the void (please see markups).



Regarding claim 36, Nutter discloses an electric motor comprising: a) a radial array of stator teeth, b) a slot between each pair of neighboring teeth, which slot i) is bordered by one surface on each tooth; and ii) has a central axis, midway between the surfaces, which is non-radial.



Regarding claim 37, Nutter discloses an electric motor wherein the slot is generally V-shaped.

Regarding claim 38, Nutter discloses an electric motor comprising: a) a rotor b) a radial array of stator teeth; c) at an end of each tooth nearest the rotor, i) an extension A which extends counterclockwise and ii) an extension B which extends clockwise; wherein each extension A on a tooth partly overlaps extension B on its neighboring tooth.

Regarding claim 39, Nutter discloses an electric motor wherein each extension A cooperates with a neighboring extension B to form an elongated slot having a central axis which is non- radial.

Response to Arguments

6. Applicant's arguments filed 1/13/06 have been fully considered but they are not persuasive. The applicant's argument is on the ground that the references that the Examiner relies on, Hsu and Nutter fail to show the features of the claimed invention as recited in the claims. The Examiner respectfully disagrees with the Applicant because all of the features of the claimed invention have been fulfilled by Hsu, Nutter and Molnar (please see markups above). We are mindful that claims are to be given their broadest reasonable interpretation during prosecution, and the scope of a claim cannot be narrowed by reading disclosed limitations into the claim. See *In re Morris*, 127 F.3d 1048, 1054, 44 USPQ2d 1023, 1027 (Fed. Cir. 1997); *In re Zletz*, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989); *In re Prater*, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550 (CCPA 1969). In short, the claims are given the broadest reasonable interpretation. Therefore, the rejection is still deemed proper and repeated hereinafter together with newly added claims to be examined.

Conclusion

7. Applicant's amendment (the addition of claims 35-39) necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Information on How to Contact USPTO

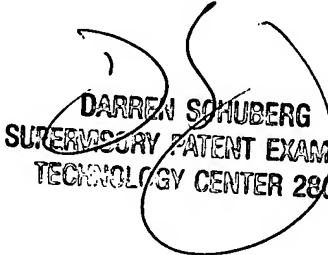
8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh N Nguyen whose telephone number is (571) 272-2031. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg, can be reached on (571) 272-2044. The fax phone numbers for the organization where this application or proceeding is assigned are (571) 273-8300 for regular communications and (571) 273-8300 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

HNN

April 7, 2006


DARREN SCHUBERG
SUPERVISOR PATENT EXAMINER
TECHNOLOGY CENTER 2800